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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,502	10/29/2003	John S. Csapo	2003.10.004.WS0	5747

23990 7590 05/22/2006

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EXAMINER

SANTIAGO CORDERO, MARIVELISSE

ART UNIT	PAPER NUMBER
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2617

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/696,502	Applicant(s) CSAPO ET AL.	
	Examiner Marivelisse Santiago-Cordero	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2617

DETAILED ACTION

Art Unit – Location

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/18/06 has been entered.
3. Accordingly, claims 1-19 are pending.

Response to Arguments

4. Applicant's arguments filed on 3/22/06 have been fully considered but they are not persuasive.

Regarding claim 11, applicant argues the term “transition base transceiver station” as if different from the applied prior art (see Remarks: page 10, lines 10-18). In response, the Examiner respectfully disagrees because transition is merely a characterization of the base transceiver station and the claim does not require nor limits the argued transition base transceiver station to a particular structure. Therefore, it fails to particularly and distinctively distinguish from the applied prior art. In addition, Kubota’s base transceiver station 52₅ reads on the

claimed transition base transceiver station because it performs all claimed functions as explained in last Office Action. See paragraphs [0083]-[0084] and [0061] of Kubota.

Regarding claims 1-10, applicant argues Shin does not disclose hard handoff (see Remarks: page 11, lines 9-15). In response, the Examiner contends that it is the very same reason why Shin is modified with Kubota because it is obvious expedient to modify Shin's soft handoff with Kubota's hard handoff for the advantage taught by Kubota in paragraph [0024] as explained in last Office Action.

Applicant also argues that there is no motivation to combine the references (see Remarks: page 11, lines 13-15; page 12, lines 11-16). In response, applicant appears to be confused with Kubota's application because as disclosed in paragraph [0024] the advantageous handoff is between difference systems and paragraph [0061] explains this is an inter-system hard handoff. Nevertheless, this is just a motivation that can be found either in the reference itself or within the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), and *Ruiz v. A.B. Chance Co.*, 357 F.3d 1270, 1276, 69, USPQ2d 1686, 1690 (Fed. Cir. 2004).

Regarding claims 12 and 16-19, applicant argues that Shin does not teach that a soft handoff occurs when the mobile station reaches the "α sector" (see Remarks: page 13, lines 10-12). By definition, soft-handoff involves overlapping regions because at a particular region (overlapping region) the device receives or communicates simultaneously with two other devices (base stations/networks).

Claim Rejections - 35 USC § 102

5. Claims 11 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kubota (Pub. No.: US 2001/0007819).

Regarding claim 11, Kubota discloses for use in a border base station in a first wireless network, a method for providing reliable hard handoffs between the first wireless network and a second wireless network, the method comprising: performing a soft handoff for a mobile station between a first base transceiver station (Fig. 4, references 52₁-52₄) in the first wireless network (Fig. 4; home system) and a transition base transceiver station (Fig. 4, reference 52₅) in the first wireless network (page 7, paragraph [0083]); and performing a hard handoff for the mobile station between the transition base transceiver station (Fig. 4, reference 52₅) and a second base transceiver station (Fig. 4, reference 58) in the second wireless network (Fig. 4; the other system) (page 5, paragraph [0061]; page 8, paragraphs [0100] and [0106]), the transceiver base transceiver station located in proximity to the second base transceiver station (Fig. 4).

Regarding claim 13, Kubota discloses performing the hard handoff for the mobile station comprising performing the hard handoff when the mobile station reaches a border for a hard handoff region (page 7, paragraph [0084]; page 8, paragraph [0100]), the hard handoff region a portion of the second wireless network (page 7, paragraph [0084]; page 8, paragraph [0100]).

Regarding claim 14, Kubota discloses performing the soft handoff between the first base transceiver station and the transition base transceiver station comprising performing the soft handoff from the first base transceiver station (Fig. 4, references 52₁-52₄) to the transition base transceiver station (Fig. 4, reference 52₅) (Fig. 4; note arrow 100; page 7, paragraph [0083]), and performing the hard handoff between the transition base transceiver station and the second base

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transceiver station comprising performing the hard handoff from the transition base transceiver station (Fig. 4, reference 52₅) to the second base transceiver station (Fig. 4, reference 58) (Fig. 4; note arrow 100; page 5, paragraph [0061]; page 8, paragraphs [0100] and [0106]).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Kubota.

Regarding claim 1, Shin discloses for use in a first wireless network, a border base station capable of providing reliable hard handoffs between the first wireless network and a second wireless network (Fig. 3; page 3, paragraph [0027]), the border base station comprising: a base station controller operable to manage communications resources within the first wireless network (Fig. 3, reference numerals 12 and 32); a first base transceiver station coupled to the base station controller (Fig. 3, reference numeral 11), the first base transceiver station operable to provide communication for a mobile station in the first wireless network (Fig. 3, reference numeral 10); and a transition base transceiver station (Fig. 3, reference numeral 31) coupled to the base station controller (Fig. 3) and located in proximity to a second base transceiver station (Fig. 3, reference numeral 21), the transition base transceiver station operable to provide communication for the mobile station in the second wireless network (Figs. 3-4), the second base transceiver station part

of the second wireless network (Fig. 3, reference numeral 20) and operable to provide communication for the mobile station in the second wireless network (Fig. 3).

Shin fails to disclose wherein the base station controller is further operable to perform a hard handoff for the mobile station between the transition base transceiver station and the second base transceiver station.

However, in the same field of endeavor, Kubota, discloses, for use in a wireless network (Fig. 4; home system), a border base station capable of providing reliable hard handoffs between the first and a second wireless network (Fig. 4; the other system), the base station controller further operable to perform a hard handoff for the mobile station between the transition base transceiver station (Fig. 4, reference 52₃) and the second base transceiver station (Fig. 4, reference 58) (page 5, paragraph [0061]; page 8, paragraphs [0100]-[0106]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the transition base transceiver station wherein the base station controller is further operable to perform a hard handoff for the mobile station between the transition base transceiver station of Shin and the second base transceiver station as suggested by Kubota.

One of ordinary skill in this art would have been motivated to perform a hard handoff for the mobile station between the transition base transceiver station and the second base transceiver station because it was commonly known in the art to perform a hard handoff between different systems and because it would increase the quality of services provided to the users of mobile stations (Kubota: paragraph [0024], first sentence).

Regarding claim 2, in the obvious combination, Shin discloses the base station controller further operable to perform a soft handoff for the mobile station between the first base transceiver station and the transition base transceiver station (page 4, paragraph [0043]).

Regarding claim 3, in the obvious combination, Shin discloses the base station controller operable to perform the soft handoff for the mobile station between the first base transceiver station and the transition base transceiver station when the mobile station reaches an overlap region between the first wireless network and the second wireless network (Fig. 4).

Regarding claim 4, in the obvious combination, Kubota discloses the base station controller operable to perform the hard handoff for the mobile station between the transition base transceiver station and the second base transceiver station when the mobile station reaches a border for a hard handoff region (page 7, paragraph [0084]; page 8, paragraph [0100]), the hard handoff region a portion of the second wireless network (page 7, paragraph [0084]; page 8, paragraph [0100]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to perform a hard handoff for the mobile station between the transition base transceiver station of Shin and the second base transceiver station when the mobile station reaches a border for a hard handoff region, the hard handoff region a portion of the second wireless network as suggested by Kubota because it shows a boundary in which the intensity of the pilot signals transmitted from the second base transceiver station increases (Kubota: page 7, paragraph [0084]).

Regarding claim 5, in the obvious combination, Shin discloses the first base transceiver station operable to provide communication for the mobile station in the first wireless network at

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a first carrier frequency (page 3, paragraph [0027]), the transition base transceiver station operable to provide communication for the mobile station in the second wireless network at the first carrier frequency (page 3, paragraph [0038]), and the second base transceiver station operable to provide communication for the mobile station in the second wireless network at a second carrier frequency (page 3, paragraph [0027]; page 5, paragraph [0047], last sentence).

Regarding claim 6, Shin discloses a first wireless network comprising a plurality of border base stations, each one of the border base stations capable of providing reliable hard handoffs between the first wireless network and a second wireless network (Fig. 3; page 1, paragraph [0004]), each border base station comprising: a base station controller operable to manage communications resources within the first wireless network (Fig. 3, reference numerals 12 and 32); a first base transceiver station coupled to the base station controller (Fig. 3, reference numeral 11), the first base transceiver station operable to provide communication for a mobile station in the first wireless network (Fig. 3, reference numeral 10); and a transition base transceiver station (Fig. 3, reference numeral 31) coupled to the base station controller (Fig. 3) and located in proximity to a second base transceiver station (Fig. 3, reference numeral 21), the transition base transceiver station operable to provide communication for the mobile station in the second wireless network (Fig. 3, reference numeral 20), the second base transceiver station part of the second wireless network and operable to provide communication for the mobile station in the second wireless network (Fig. 3, reference numeral 20).

Shin fails to disclose wherein the base station controller is further operable to perform a hard handoff for the mobile station between the transition base transceiver station and the second base transceiver station.

However, Kubota, in the same field of endeavor, discloses the base station controller further operable to perform a hard handoff for the mobile station between the transition base transceiver station (Fig. 4, reference 52₅) and the second base transceiver station (Fig. 4, reference 58) (page 5, paragraph [0061]; page 8, paragraphs [0100]-[0106]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to perform a hard handoff for the mobile station between the transition base transceiver station of Shin and the second base transceiver station as suggested by Kubota.

One of ordinary skill in this art would have been motivated to perform a hard handoff for the mobile station between the transition base transceiver station and the second base transceiver station because it was commonly known in the art to perform a hard handoff between different systems and because it would increase the quality of services provided to the users of mobile stations (Kubota: paragraph [0024], first sentence).

Regarding claim 7, in the obvious combination, Shin discloses the base station controller further operable to perform a soft handoff for the mobile station between the first base transceiver station and the transition base transceiver station (page 4, paragraph [0043]).

Regarding claim 8, in the obvious combination, Shin discloses the base station controller operable to perform the soft handoff for the mobile station between the first base transceiver station and the transition base transceiver station when the mobile station reaches an overlap region between the first wireless network and the second wireless network (Fig. 4).

Regarding claim 9, in the obvious combination, Kubota discloses the base station controller operable to perform the hard handoff for the mobile station between the transition base transceiver station and the second base transceiver station when the mobile station reaches a

border for a hard handoff region (page 7, paragraph [0084]; page 8, paragraph [0100]), the hard handoff region a portion of the second wireless network (page 7, paragraph [0084]; page 8, paragraph [0100]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to perform a hard handoff for the mobile station of Shin between the transition base transceiver station and the second base transceiver station when the mobile station reaches a border for a hard handoff region, the hard handoff region a portion of the second wireless network as suggested by Kubota because it shows a boundary in which the intensity of the pilot signals transmitted from the second base transceiver station increases (Kubota: page 7, paragraph [0084]).

Regarding claim 10, in the obvious combination, Shin discloses the wireless network of claim 6, the first base transceiver station operable to provide communication for the mobile station in the first wireless network at a first carrier frequency (page 3, paragraph [0027]), the transition base transceiver station operable to provide communication for the mobile station in the second wireless network at the first carrier frequency (page 3, paragraph [0038]), and the second base transceiver station operable to provide communication for the mobile station in the second wireless network at a second carrier frequency (page 3, paragraph [0027]; page 5, paragraph [0047], last sentence).

8. Claims 12 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota in view of Shin.

Regarding claim 12, Kubota discloses the method of claim 11 (see above). Kubota fails to disclose performing the soft handoff for the mobile station comprising performing the soft

handoff when the mobile station reaches an overlap region between the first wireless network and the second wireless network.

However, in the same field of endeavor, Shin, for use in a border base station in a first wireless network, capable of providing reliable hard handoffs between the first wireless network and a second wireless network (Fig. 3; page 3, paragraph [0027]), discloses performing the soft handoff when the mobile station reaches an overlap region between the first wireless network and the second wireless network (Fig. 4).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to perform the soft handover of Kubota when the mobile station reaches an overlap region between the first wireless network and the second wireless network as suggested by Shin.

One of ordinary skill in this art would have been motivated to perform the soft handover when the mobile station reaches an overlap region between the first wireless network and the second wireless network because the pilot signal from the it shows a boundary in which the intensity of the pilot signals transmitted from the transition base transceiver station increases (Shin: page 4, paragraph [0043]).

Regarding claim 16, Kubota discloses the method of claim 11 (see above). Kubota fails to disclose further comprising: providing communication for the mobile station at a first carrier frequency in the first wireless network; and providing communication for the mobile station at the first carrier frequency and at a second carrier frequency in the second wireless network.

However, Shin, in the same field of endeavor, discloses providing communication for the mobile station at a first carrier frequency in the first wireless network (Fig. 4; page 3, paragraph

[0039]); and providing communication for the mobile station at the first carrier frequency and at a second carrier frequency in the second wireless network (Fig. 4; page 3, paragraph [0039]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to provide communication for the mobile station at a first carrier frequency in the first wireless network of Kubota; and providing communication for the mobile station at the first carrier frequency and at a second carrier frequency in the second wireless network as suggested by Shin.

One of ordinary skill in this art would have been motivated to provide communication for the mobile station at a first carrier frequency in the first wireless network; and providing communication for the mobile station at the first carrier frequency and at a second carrier frequency in the second wireless network because it would assist the progress of choosing which handoff to incorporate.

Regarding claim 17, in the obvious combination, Shin discloses providing communication for the mobile station at the first carrier frequency in the first wireless network comprising providing communication for the mobile station at the first carrier frequency with the first base transceiver station (page 3, paragraphs [0035]-[0036]; page 5, paragraph [0047], last sentence).

Regarding claim 18, in the obvious combination, Shin discloses providing communication for the mobile station at the first carrier frequency in the second wireless network comprising providing communication for the mobile station at the first carrier frequency with the transition base transceiver station (page 3, paragraph [0039]).

Regarding claim 19, in the obvious combination, Shin discloses providing communication for the mobile station at the second carrier frequency in the second wireless network comprising providing communication for the mobile station at the second carrier frequency with the second base transceiver station (page 3, paragraphs [0035] and [0037]; page 5, paragraph [0047], last sentence).

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota.

Regarding claim 15, Kubota discloses the method of claim 11 (see above). Kubota fails to disclose performing the soft handoff between the first base transceiver station and the transition base transceiver station comprising performing the soft handoff from the transition base transceiver station to the first base transceiver station, and performing the hard handoff between the transition base transceiver station and the second base transceiver station comprising performing the hard handoff from the second base transceiver station to the transition base transceiver station.

However, it would have been obvious to one of ordinary skill in this art at the time the invention was made to perform the soft handoff between the first base transceiver station and the transition base transceiver station comprising performing the soft handoff from the transition base transceiver station to the first base transceiver station, and performing the hard handoff between the transition base transceiver station and the second base transceiver station comprising performing the hard handoff from the second base transceiver station to the transition base transceiver station because the mobile station may be in constant movement; consequently, returning through the same path to the home system.

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Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Musynski (Patent No.: 5,790,528) discloses a border base station and Soliman (Pub. No.: US 2003/0060200) discloses a hard handoff followed by a soft handoff.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marivelisse Santiago-Cordero whose telephone number is (571) 272-7839. The examiner can normally be reached on Monday through Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MSC 5/8/06

MSC


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SUPERVISORY PRIMARY EXAMINER